Central Valley Clean Water Association
Representing Over Fifty Wastewater Agencies

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Sent via Electronic and U.S. Mail

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Re: Central Valley Clean Water Association Response to Petitions for Review of Order No. R5-2010-0114 [NPDES No. CA0077682] for Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant—*SWRCB/OCC Files A-2144(a) and A-2144(b) (Consolidated)*

Dear Mr. Herink:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to submit these comments on the Sacramento Regional County Sanitation District's (SRCSD) and California Sportfishing Protection Alliance's (CSPA) petitions for review of Waste Discharge Requirements Order No. R5-2010-0114 [NPDES[1] No. CA0077682] (Permit) for the Sacramento Regional Wastewater Treatment Plant (SRWTP), adopted by the Central Valley Regional Water Quality Control Board (Regional Water Board) on December 9, 2010.[2]

CVCWA is a non-profit organization representing more than 50 publicly owned treatment works (POTWs) throughout the Central Valley Region in regulatory matters related to surface water discharge and land application. We approach these matters with a perspective to balance environmental and economic interests consistent with state and federal law. We work within our organization and with the Regional Water Board and its staff to address water quality issues and improve or protect water quality

[1] National Pollutant Discharge Elimination System.

[2] By letter dated February 22, 2011, the Regional Water Board's Executive Officer gave notice of minor modifications and clarifications to the Permit.

conditions in the Delta and throughout the Region. For example, we actively participate in and have provided funding for CV-SALTS and efforts to reduce mercury discharges. Because our POTW members must comply with waste discharge requirements (WDRs) issued by the Regional Water Board, we have a significant interest in the Permit and present proceeding.

Our overarching concerns with the Permit are that it imposes requirements that are unsupported by sound science and technical and regulatory reasoning, and that may be unachievable, while costing ratepayers nearly $2 billion. The imposition of such requirements is contrary to federal and state law. (See 40 C.F.R. § 124.8(b)(4); *Topanga Association for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515 (*Topanga*) [agency must "bridge the analytic gap between the raw evidence and the ultimate decision or order," focusing on "relationships between the evidence and findings and between findings and ultimate action"]; Order No. WQ 2001-03[3] at p. 5 [permit findings must explain "the reasoning of the agency [and] how the law and facts justify the decision or order"].) Permit requirements must be "reasonable, considering all demands being made and to be made on [the receiving] waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (Wat. Code, § 13000.)

We generally support SRCSD's petition for review (SRCSD Petition) and offer responses below to specific issues raised in the SRCSD Petition. Our comments address antidegradation and best practicable treatment and control (BPTC); advanced treatment requirements; and the ammonia and nitrate mixing zone denials and effluent limitations. Based on our review and analysis of the SRCSD Petition, we respectfully request that the State Water Resources Control Board (State Water Board) take the following actions or remand the Permit to the Regional Water Board to do the same: (1) Find that the Permit renewal did not trigger the antidegradation policies and either revise the Permit accordingly or remand the Permit to the Regional Water Board for modification consistent with the State Water Board's findings; and (2) Provide acute and chronic aquatic life dilution credit for ammonia and revise the effluent limitations for ammonia and nitrate accordingly. In the alternative, if the State Water Board finds that the Permit renewal did trigger antidegradation review, the State Water board should confirm the appropriate baseline is existing water quality and amend the Permit and redefine BPTC accordingly, including removing the requirements and compliance schedule related to compliance with filtration requirements based on Title 22 of the California Code of Regulations (Title 22) or the equivalent.

Granting any of CSPA's requested Permit modifications would only add to the deficiencies in the Permit's scientific, technical and legal foundation and increase the cost of compliance without providing any meaningful water quality benefit. Therefore, based on our review of CSPA's petition for review (CSPA Petition) and for the reasons stated below, we ask that the State Water Board dismiss CSPA's petition or deny CSPA's requested review and Permit modifications.

I. CVCWA Response to the SRCSD Petition

A. Permit Provisions Based on Antidegradation and BPTC Are Contrary to Law and Policy

CVCWA agrees with SRCSD that, as a matter of law, SRCSD's permit renewal did not trigger state or federal antidegradation review. (See SRCSD Petition at pp. 133-135.) Even if the renewal did trigger

[3] *In the Matter of the Petition of Las Virgenes Municipal Water District*, Order No. WQ 2001-03 (Feb. 15, 2001).

such review, the Regional Water Board applied the wrong baseline and the Permit's statements and conclusions regarding BPTC are fundamentally flawed. (See *id.* at pp. 135-165.) Setting a troubling precedent unsupported by law and policy, the Regional Water Board attempted to support stringent new permit requirements based on an antidegradation analysis that is not appropriate for the SRWTP's existing discharge and in the absence of any evidence that the discharge will degrade baseline water quality.

1. <u>The SRWTP's Permit Renewal Did Not Trigger Federal and State Antidegradation Requirements</u>

The Permit improperly concludes that changed conditions in the Sacramento River and Delta downstream of the SRWTP's discharge warranted a new antidegradation analysis. (Permit at p. F-93.) There is no basis in law or guidance for this unprecedented conclusion. The renewal of SRCSD's Permit did not trigger state or federal antidegradation policies because the Regional Water Board previously considered the discharge under those policies and the Permit does not allow for reduced water quality.

The state's antidegradation policy (Resolution No. 68-16) provides that existing high quality waters "will be maintained until it has been demonstrated to the State that any *change*" will meet certain criteria. (Emphasis added.) Resolution No. 68-16 incorporates the federal antidegradation policy (40 C.F.R. § 131.12) where it applies. (Order No. WQ 86-17[4] at pp. 17-18.) Whether a water body has existing high quality is determined on a pollutant-specific basis, and only activities that will *reduce* water quality for the constituent of interest trigger the antidegradation policies. (*Id.* at p. 17 [reductions in water quality may not violate the antidegradation policies]; Order WQ 2009-0007[5] (Pyramid Dam Order) at p. 12 [the state and federal antidegradation policies "apply to reductions in water quality"]; Order No. WQ 86-8[6] (Santa Clara Order) at pp. 28-29; State Water Board Administrative Procedures Update No. 90-004 (APU 90-004) at pp. 2, 4.) This includes consideration of any water quality reductions that occurred after the state and federal antidegradation policies took effect, but were not reviewed for consistency with the policies. (Pyramid Dam Order at p. 12.)

As the Permit recognizes, SRCSD withdrew its request for an increase in discharge capacity and the Permit does not allow for an increase in flow or mass of pollutants to the receiving water, except with regard to cyanide. (Permit at pp. 4, F-92, F-93.) Respecting cyanide, SRCSD performed a dynamic modeling analysis representing a more accurate picture of the mixing zone concentrations and justifying a less stringent effluent limitation. (*Id.* at p. F-92.) Therefore, no reduction in water quality requiring an antidegradation analysis was authorized under the Permit. As such, the State Water Board should find that SRCSD's permit renewal did not trigger the antidegradation policies and amend or order the amendment of the Permit accordingly.

[4] *In the Matter of the Petition of Rimmon C. Fay*, Order No. WQ 86-17 (Nov. 20, 1986).

[5] *In the Matter of Petitions for Reconsideration of Water Quality Certification for the Re-operation of Pyramid Dam*, Order WQ 2009-0007 (Aug. 4, 2009).

[6] *In the Matter of the Petitions of the County of Santa Clara, et al.*, Order No. WQ 86-8 (May 5, 1986).

2. Assuming the Permit Renewal Warranted Antidegradation Review, the Regional Water Board Applied the Wrong Baseline and Is Fundamentally Flawed With Regard to BPTC

After SRCSD withdrew its request to increase capacity, the antidegradation analysis prepared for that request (ADA) was no longer required or appropriate for use in renewing the Permit. (See Permit at pp. 4, F-93 to F-94.) Nontheless, the Regional Water Board used parts of the ADA to determine if the *currently permitted discharge* would result in significantly increased pollutant loading even though the Permit does not allow for such loading. (*Id.* at p. F-94.) This represents a baseline of zero for SRCSD instead of a baseline equivalent to existing water quality. As a result, the Permit concludes that the *existing* discharge degrades the receiving water and thus requires BPTC. (*Ibid*.) The Permit identifies BPTC as nitrification, denitrification and the equivalent of filtration in accordance with Title 22 with ultraviolet light (UV) or chlorine disinfection treatment. (*Ibid*.)

This new approach for establishing baseline in renewing a permit significantly concerns CVCWA and violates state policy:

> Baseline quality is defined as the best quality of the receiving water that has existed since 1968 when considering Resolution No. 68-16, or since 1975 under the federal policy, unless subsequent lowering was due to regulatory action consistent with State and federal antidegradation policies. If poorer water quality was permitted, the most recent water quality resulting from permitted action is the baseline water quality to be considered in any antidegradation analysis. (APU 90-004 at p. 4.)

Assuming the Regional Water Board may, in some rare circumstances, lawfully establish requirements to reverse past degradation authorized by WDRs based on a complete antidegradation analysis, the decision to do so in this case violates the reasonableness requirements of Resolution No. 68-16 and Water Code section 13000. Resolution 68-16 is not a zero-discharge standard, but a policy statement that existing high quality waters be maintained *when it is reasonable to do so*. (Santa Clara Order at p. 29.) Water Code section 13000 requires that permit requirements be "*reasonable, considering all demands* being made and to be made on [the receiving] waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (Emphasis added.) Neither the evidence in the record nor the Permit findings support a conclusion that the BPTC prescribed is reasonable. Rather, the expert testimony and socio-economic data in the record prevent any finding of reasonableness.

The Permit does not articulate the requisite legal and technical analyses as to why BPTC is nitrification, denitrification and the equivalent of Title 22 filtration with UV light or chlorine disinfection treatment. BPTC depends on various factors and the circumstances of the discharge. For example, the Permit must demonstrate that the Regional Water Board analyzed the alternatives and their compliance costs; considered the water quality achieved by other similarly situated dischargers and the methods used to achieve that quality;[7] and balanced the proposed action against the public interest. (Order No.

[7] The Permit justifies the new BPTC requirements based on the permits and actions of similarly situated dischargers. (Permit at p. F-96.) However, the dischargers cited are not similarly situated to SRCSD. Roseville, Lodi, Woodland, and Vacaville discharge to effluent-dominated water bodies that lack dilution. Manteca and Tracy discharge to the San Joaquin River, not the Sacramento River, and upgraded to advanced treatment to increase loading, not to maintain existing water quality. Ironhouse

WQ 2000-07[8] at pp. 10-11; APU 90-004 at pp. 4-5.) The Permit is also to address the economic and social costs (tangible and intangible) of the discharge compared to the benefits. (See APU 90-004 at p. 5.) The Permit fails to meet these requirements, and, as a result, the technology required is wholly disproportionate to the cost that SRCSD's ratepayers will incur. (See *CPC International, Inc. et. al., v. Train* (1976) 540 F.2d 1329, 1341.) The Permit therefore offends the requirement for best "practicable" treatment or control.

Statements in the Permit alleging the need for BPTC as specified therein are not proper findings nor do they support the new treatment requirements. (See Permit at pp. F-94 to F-96.) For example, the first four statements are merely factual and do not connect the SRWTP's discharge to any effects on beneficial uses. (See *id.* at pp. F-94 to F-95.) The statement in the fifth bullet point regarding the use of assimilative capacity is irrelevant—the Permit does not authorize an increase in permitted capacity. (See *id.* at p. F-95.) Similarly, none of the other statements provide support for the conclusion that Permit requirements in the name of BPTC are necessary to protect beneficial uses or that the Sacramento River is high quality for the constituents identified.

For these reasons, if the Permit renewal did trigger antidegradation review, the appropriate baseline is existing water quality and the Permit must be reevaluated, amended and BPTC redefined accordingly.

B. The Requirement to Treat to Title 22 Standards or Their Equivalent and the Associated Time Schedule Should Be Removed from the Permit

SRCSD is correct that the record does not support requiring the SRWTP to treat its effluent in accordance with the Title 22 tertiary reclamation criteria or equivalent. (SRCSD Petition at pp. 25-55; see Permit at pp. 33-34.) The Permit should be modified to remove the requirement and related compliance schedule.

As explained, antidegradation policies do not justify the requirement to meet Title 22 tertiary standards or the equivalent as BPTC. Further, the Title 22 tertiary criteria apply to the treatment and use of recycled water for beneficial use—not to surface water discharges. (Order No. WQO 2002-0016[9] (Turlock Order) at pp. 11 ["reclamation criteria are not directly applicable to wastewater discharged into a water body subject to NPDES regulation"].) That is, Title 22 establishes standards for recycled water "that has been transported from the point of treatment or production to the point of use *without an intervening discharge to waters of the State*." (Title 22, § 60301.200, emphasis added.) Any requirement to treat to Title 22 standards or the equivalent must be supported by evidence demonstrating that the "discharges of wastewater . . . will be used for the purposes described in Title 22" and applying the criteria is necessary to protect human health. (Turlock Order at pp. 10-11.) The data and findings do not meet this threshold.

Sanitary District is a new discharger to the San Joaquin River, discharging seasonally and applying recycled water in the summer months to adjacent agricultural lands. Such use of recycled water requires Title 22 compliance.

[8] *In the Matter of the Petition of San Luis Obispo Golf and Country Club*, Order No. WQ 2000-07 (April 26, 2000).

[9] *In the Matter of the Review on Own Motion the City of Turlock, Municipal Services Department*, Order No. WQO 2002-0016 (Oct. 3, 2002).

For example, the Permit states that "undiluted effluent will not be drawn into the agricultural intakes" and "the SRCSD discharge will not be carried far enough upriver during incoming tides to be captured by the Freeport intake." (Permit at p. F-74.) The average dilution of the SRWTP's effluent is more than 50:1. (See *ibid*; Staff Report for the SRWTP NPDES permit renewal, Dec. 9, 2010 Regional Water Board Meeting (Staff Report) at p. 30.) Even those most concerned about protection of municipal drinking water quality agreed that the science does not support a requirement for tertiary treatment. The California Urban Water Agencies (CUWA) concluded that pathogens from the SRWTP's discharge "are *not* currently impacting drinking water quality/treatment." (Comments on Issue Paper on NPDES Permitting Renewal Issues Drinking Water Supply and Public Health for the SRWTP, CUWA (Feb. 1, 2010) at p. 2, emphasis added.) A group of Delta export contractors recommended that the SRWTP's disinfection requirements *remain the same for existing flows*. (Letter to K. Harder, Regional Water Board, from W. Wadlow, Alameda County Water District, *et al*. re: Comments on Drinking Water Supply and Public Health Issues Concerning the SRWTP NPDES Permit Renewal (Feb. 1, 2010) at p. 15.)

Further, the discharge does not exceed the United States Environmental Protection Agency's (USEPA) water quality criteria for contact recreation. (Permit at p. F-75.) Conceding this, the Regional Water Board relied on a new, more stringent risk threshold (1 in 10,000 risk and 1 log removal) based on correspondence from the California Department of Public Health (DPH), with no legal or regulatory basis. (*Id.* at pp. F-75, F-77.) The receiving waters *upstream* of the SRWTP do not meet this risk threshold, which is significantly more conservative than those applied to bathing beaches and USEPA's recommended risk thresholds for *E. coli* and fecal coliform (accepted rates of 8 illnesses per 1,000 swimmers in freshwater and 19 illnesses per 1,000 swimmers at marine beaches). The Title 22 or equivalent requirement is also inconsistent with Dr. Gerba's conservative February 23, 2010 risk assessment,[10] October 2010 written testimony,[11] and oral testimony at the Regional Water Board hearing. Neither Dr. Gerba's report nor his testimony has been disputed.

The discussion in Permit fact sheet regarding pathogens does not specifically refer to any water quality objective, including the objective for pathogens in the Sacramento River. (See Permit at pp. F-72 to F-73; Water Quality Control Plan for the Sacramento River and San Joaquin River Basin, Regional Water Board, 4th ed., (Rev. Sept. 2009) (Basin Plan) at p. III-3.00.) Nor does the Permit identify any actual results of a reasonable potential analysis associated with the filtration requirements. (See Permit at pp. F-73 to F-78.)

For these reasons, the Permit fundamentally fails to bridge the analytic gap between the raw evidence and requirement to treat to Title 22 standards or the equivalent. The Permit should be amended to remove the requirement.

C. Mixing Zones for Ammonia and Nitrate Should Be Granted and the Corresponding Effluent Limitations Revised

The SRWTP should receive acute and chronic aquatic life dilution credit for ammonia, and the effluent limitations for ammonia and nitrate should be revised accordingly. The Permit acknowledges:

[10] *Estimated Risk of Illness from Swimming in the Sacramento River,* Report for SRCSD, Charles P. Gerba, Ph.D (Feb. 23, 2010).

[11] Testimony/Comments of Charles P. Gerba, Ph.D, Related to Draft NPDES Permit for the SRWTP, submitted to the Regional Water Board on Oct. 11, 2010.

"The discharge, when the approved mixing zones are considered, is in compliance with current USEPA acute and chronic ammonia criteria." (Permit at p. J-1.) However, the Permit denies dilution credits based on hypotheses related to whether ammonia *might* contribute to pelagic organism decline (POD) in the Delta and criteria being considered (but not yet adopted) by USEPA. (*Id.* at pp. F-55 to F-57, J-1, J-3; see Staff Response to Comments for the Dec. 9, 2010 Regional Water Board meeting (RTC) at p. 47.)

This approach is inconsistent with state and federal law and the Regional Water Board's longstanding permitting practice. For ammonia, the Regional Water Board uses USEPA's ammonia criteria to conduct a reasonable potential analysis for compliance with the Basin Plan's narrative toxicity objective. (See *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) (2005) at pp. 5-6; see e.g., Order No. R5-2007-0113 (City of Lodi) at pp. F-22 to F-33; see also Basin Plan at p. IV-17.00; 40 C.F.R. § 122.44(d)(1).) If the discharge exhibits reasonable potential, the Regional Water Board determines if a mixing zone is proper. (SIP at pp. 15-18; see Basin Plan at p. IV-16.00.) For an incompletely mixed discharge such as the SRWTP's, the SIP establishes eleven criteria for determining if a mixing zone is proper. (SIP at p. 17.) If a mixing zone is proper, the Regional Water Board calculates effluent limitations considering dilution. (*Id.* at p. 8; see e.g., Order No. R5-2010-0073 (Sewerage Commission-Oroville Region) at p. F-29.)

The Permit states that SRCSD's requested mixing zones for ammonia would not meet three of the eleven SIP criteria. (Permit at p. F-40.) The three criteria are that the mixing zone does not compromise the integrity of the entire water body; adversely impact biologically sensitive or critical habitats; or produce undesirable or nuisance aquatic life. (*Ibid*.) However, the Permit does not articulate a rationale linking the facts and evidence to a conclusion that the mixing zones do not meet the criteria. (See *id.* at pp. F-40 to F-41.) The Regional Water Board may not arbitrarily deny a mixing zone, but must fully consider the information in the record, high cost to meet the effluent limitations absent dilution and lack of evidence of harm associated with a mixing zone. (Order WQO 2004-0013[12] (Yuba City Order) at p. 12.) Instead of following the proper approach for considering mixing zones, the Permit denies dilution based on alleged ammonia impacts far downstream of the discharge, outside SRCSD's requested mixing zone, where ammonia concentrations being significantly less than USEPA's ammonia criteria. (See Permit at pp. F-40 to F-41, J-4; Staff Report at pp. 7, 16.)

The Regional Water Board's denial of a mixing zone for ammonia is irreconcilable with its grant of mixing zones for other constituents. For cyanide and human health constituents, the Regional Water Board found that the requested mixing zone was as small as practicable and meets specified conditions. (SIP at p. 17; Permit at pp. F-36 to F-38, F-39 to F-40.) As the Permit explains, the mixing zones will not compromise the integrity of the entire water body; cause acutely toxic conditions to aquatic life passing through the mixing zone; restrict the aquatic life passage; adversely impact biological sensitive or critical habitats; produce undesirable or nuisance aquatic life; result in floating debris, oil or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance; dominate the receiving water body or overlap existing mixing zones from different outfalls; or be allowed at or near any drinking water intake. (*Ibid*; see RTC at p. 152; see also SIP at p. 17.) These conditions are equally satisfied in the case of ammonia, yet the mixing zone was denied.

[12] *In the Matter of the Petition of Yuba City*, Order WQO 2004-0013 (July 22, 2004).

Further, the record additionally fails to support denial of dilution credit in this case, as there is nothing approaching scientific consensus regarding a causal link between low concentrations of ammonia and POD or effects to other beneficial uses.[13] In November 2011, a committee of independent experts formed at the request of Congress and the Departments of the Interior and Commerce is to release a report regarding incorporating science and adaptive management into holistic programs to manage and restore the Delta.[14] The report will address ammonia.[15] Respecting ammonia, USEPA's website states: "To date, EPA has not made any final decisions on what to do about the ammonia criteria, and will not do so until all issues, questions and new scientific information is explored."[16] The Permit imposes overly stringent effluent limitations for ammonia given the uncertain state of the science and absence of a demonstrated causal link between the SRWTP's discharge and POD or other use impairments.

Due to the overly stringent ammonia limitations, the Permit requires the SRWTP to nitrify its effluent fully, substantially increasing the nitrate levels in the effluent. (Permit at p. F-72.) The SRWTP's effluent now contains very low nitrate concentrations. (*Id.* at p. F-44.) With the increase in nitrate levels resulting from full nitrification, the SRWTP will be unable to the Permit's meet end-of-pipe nitrate effluent limitations based on the primary maximum contaminant level (MCL) of 10 milligrams per liter (mg/L) (as nitrogen). (*Ibid*.) The Permit denies a human health mixing zone for nitrate despite assimilative capacity and dilution being available. (*Id.* at pp. F-44 to F-45; RTC at p. 114.) As the Staff Report acknowledges, "[t]here is sufficient dilution available in the Sacramento River that the river after mixing [with a nitrified effluent] will not exceed the nitrate drinking water standard." (Staff Report at p. 20.) Indeed, the closest drinking water diversion downstream is Barker Slough Pumping Plant—approximately 40 miles from the discharge. (Permit at p. F-36.) As a result of denying the mixing zone, the Permit requires denitrification for removal of the nitrate to meet the primary MCL at the end-of-pipe. (*Id.* at p. F-45; RTC at p. 115.)

The denial of the mixing zone for nitrate rests on the same three of the eleven SIP criteria used to deny the mixing zones for ammonia. (Permit at p. F-45.) However, the denial has nothing to do with the merits of the mixing zone or sound science, but rather on a theory of maintaining nitrogen-to-phosphorous ratios. (RTC at p. 114.) Accordingly, similar to ammonia, the Regional Water Board failed to bridge the analytic gap between the evidence and Permit requirements. Moreover, the SIP mixing zone criteria do not apply to nitrate. Nitrate is not a priority pollutant under the California Toxics Rule nor is application of the primary MCL for nitrate based on the narrative toxicity objective for aquatic life in the Basin Plan. (See 40 C.F.R. § 131.38(b)(1); see also Permit at pp. F-71 to F-72.) The Basin Plan's provisions regarding mixing zones apply to *non-priority* pollutants and direct the Regional Water Board to consider USEPA's *Technical Support Document For Water Quality-based Toxics Control* (TSD). (Basin Plan at p. IV-16.00.) Although the Permit claims that the Regional Water Board considered the Basin Plan and TSD, the Permit makes clear that the denial of the mixing zone was based on the three SIP criteria. (See Permit at pp. F-44 to F-45.)

[13] The Regional Water Board staff "concur that [the SRWTP's] ammonia levels after mixing with the receiving water are not sufficiently elevated to cause toxicity to Delta smelt." (RTC at p. 20.) Staff also agrees that a July 2010 nutrient report indicates that "ammonia could not be the reason [for] the decrease in chlorophyll-a." (*Id.* at p. 21.) However, staff inappropriately concludes that "the cause of the decline continues to be unknown and ammonia in the discharge can not be ruled out." (*Ibid*.)

[14] http://www8.nationalacademies.org/cp/projectview.aspx?key=49175 (last visited April 23, 2011)

[15] http://www8.nationalacademies.org/cp/projectview.aspx?key=49175 (last visited April 23, 2011)

[16] http://www.epa.gov/waterscience/criteria/ammonia/re-eval.html (last visited April 23, 2011)

II. CVCWA Response to the CSPA Petition

A. The Use of An Annual Averaging Period for Aluminum and Electrical Conductivity (EC) Was Proper and Consistent With 40 C.F.R. § 122.45(d)(2)

CSPA challenges the Permit's use of annual averages in expressing effluent limitations for aluminum and electrical conductivity (EC) as violating 40 C.F.R. § 122.45(d)(2) and resulting in effluent limitations less stringent than federal law requires. (CSPA Petition at pp. 13-15.) Contrary to CSPA's claims, the Permit properly expresses effluent limitations for aluminum and EC as annual averages.

The federal regulations require NPDES permits to include effluent limitations for constituents that have the reasonable potential to cause or contribute to an exceedance of a water quality objective. (40 C.F.R. § 122.44(d)(1)(i).) Under 40 C.F.R. § 122.45(d)(2), the Regional Water Board must express these effluent limitations as weekly and monthly averages *unless impracticable*:

> For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as . . . (2) Average weekly and average monthly discharge limitations for POTWs. (40 C.F.R. § 122.45(d)(2).)

CSPA's strained interpretation of 40 C.F.R. § 122.45(d)(2) is that establishing average weekly and average monthly limitations is "impracticable" only if it is mathematically impossible. (CSPA Petition at p. 14.) No legal authority supports this contention, and it is inconsistent with prior State Water Board decisions and the TSD. (See e.g., Order No. WQO 2002-0012[17] at p. 20 [it is impracticable to use weekly average limitations to protect against acute water quality effects]; TSD, EPA/505/2-90-001 (March 1991) at p. 96.)

The Regional Water Board has significant discretion in establishing effluent limitations. (See Order No. WQO 2003-0012[18] (Los Coyotes Order) at p. 15.) The State Water Board has stated that it will not reverse such discretion where exercised in a supportable manner. (*Ibid*.) In this case, expressing effluent limitations for aluminum and EC as annual averages is not only supportable as against CSPA's claims, but exceeds federal law requirements.

1. The Use of an Annual Averaging Period for Aluminum Was Appropriate

For aluminum, the Permit establishes a maximum daily effluent limitation (MDEL) of 750 micrograms/per liter (μg/L), average monthly effluent limitation (AMEL) of 503 μg/L and annual average effluent limitation of 200 μg/L. (Permit at pp. 14, 15.) The basis for the AMEL and MDEL is USEPA's National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life. (*Id.* at p. F-54.) The basis for the annual average effluent limitation for aluminum is the secondary MCL for aluminum. (*Id.* at pp. F-54, F-92.) Combined, these limitations are more stringent than federal law requires. (RTC at p. 141.)

[17] *In the Matter of the Petitions of East Bay Municipal Utility District and Bay Area Clean Water Agencies,* Order No. WQO 2002-0012 (July 18, 2002).

[18] *In the Matter of the Review of Own Motion of Waste Discharge Requirements for Los Coyotes and Long Beach Wastewater Reclamation Plants*, Order No. WQO 2003-0012 (Sept. 16, 2003).

Title 22 generally requires compliance with secondary MCLs on an annual average basis. (Title 22, § 64449; Permit at p. F-92.) As water that meets these requirements on an annual average basis is suitable for drinking, it is impracticable to calculate average weekly and average monthly effluent limitations. (Permit at p. F-92; RTC at p. 141.) Such limitations would be more stringent than necessary to protect the MUN beneficial use. (RTC at p. 141.) The Regional Water Board has determined that an averaging period similar to what is used by DPH for constituents regulated by secondary MCLs is appropriate and using shorter averaging periods is impracticable because it sets more stringent limitations than necessary. (*Ibid*.)

CSPA alleges that the use of an annual average allows for shorter-term peaks above the applicable secondary MCLs that would result in violating the Permit's Receiving Water Limitation No. 14 relating to taste and odors. (CSPA Petition at pp. 14-15.) In contradictory statements, CSPA states that "Title 22 requirements are not binding on the Regional Board" and "[t]he Regional Water Board has no authority to allow concentrations peaks of pollutants above the drinking water MCLs." (*Ibid*.) Moreover, the State Water Board rejected a similar contention in Order WQ 2008-0008[19] (Davis Order) where CSPA argued that using an annual average, performance-based EC limitation would allow for "astronomically high" instantaneous EC concentrations. (Davis Order at p. 20.) The State Water Board disagreed, concluding that the approach was an appropriate exercise of best professional judgment. (*Id.* at p. 21.) The annual average for aluminum in this case is also based on best professional judgment. (See Permit at pp. F-53 to F-54.) Further, the SRWTP must comply with all receiving water limitations set forth in the Permit or be subject to potential enforcement action.

2. No EC Limitation Was Required

The Regional Water Board found that the SRWTP's discharge does not have reasonable potential to cause or contribute to an in-stream excursion of the water quality objectives for EC. (Permit at pp. F-50, F-51; RTC at p. 123, 141-142.) Nevertheless, the Permit imposes a performance-based final EC effluent limitation of 900 micro ohms per centimeter (μmhos/cm) because the SRWTP discharges into the Sacramento-San Joaquin Delta. (Permit at pp. 15, F-51; RTC at p. 142.) The federal regulations require NPDES permits to include effluent limitations *only for constituents that exhibit reasonable potential*. (40 C.F.R. § 122.44(d)(1)(i).) Therefore, including *any* effluent limitation for EC in the Permit is more stringent than federal law requires. (RTC at p. 142.)

3. To the Extent the Permit Imposes an EC Limitation, a Long Term Average is Appropriate

As a rule, CVCWA does not support imposing effluent limitations for constituents that do not demonstrate reasonable potential. However, if the Permit is to include an EC limitation, a long-term average is appropriate. The Regional Water Board's approach for calculating the annual average EC limitation in the Permit is consistent with that used and approved in the Davis Order. (See Permit at pp. F-49, F-50, F-51.) In the Davis Order, the State Water Board concluded that the annual average limitation was appropriate, "as it used a reasonable statistical approach, was based on best professional

[19] *In the Matter of the Petition of California Sportfishing Protection Alliance*, Order WQ 2008-0008 (Corrected) (Sept. 2, 2008).

judgment, and resulted in a conservative, enforceable, performance-based limitation for EC from past and current yearly averages." (Davis Order at p. 21.)

B. The Aluminum Effluent Limitations for Protection of Aquatic Life Are Consistent with Applicable Law

CVCWA disagrees with CSPA's claim that the Regional Water Board should have used USEPA's chronic criterion for aluminum (87 μg/L) to establish the Permit's aluminum effluent limitations for protection of aquatic life. (See CSPA Petition at pp. 17-18.) CVCWA also disagrees with CSPA's underlying rationale that in using only the acute criterion, the Regional Water Board adopted the criteria recommended for use in NPDES permits in Utah and sidestepped the process for developing site-specific water quality criteria.[20] (See *id.* at pp. 23, 24, 25.) Rather, for the reasons provided below, CVCWA contends that use of the 750 μg/L aluminum criterion was proper.

To implement the Basin Plan's narrative toxicity standard and protect aquatic life, the Permit establishes final effluent limitations of 503 μg/L AMEL and 750 μg/L MDEL. (Permit at pp. 14, F-54 to F-55; RTC at p. 143.) In calculating these limitations, the Regional Water Board determined that use of USEPA's recommended aluminum chronic criterion (87 μg/L) would be overly protective. (Permit at p. F-54; RTC at p. 143.) Therefore, the Regional Water Board properly based the effluent limitations on USEPA's recommended acute criterion for aluminum (750 μg/L). (Permit at p. F-54.)

In this case, the Regional Water Board acted consistent with the SIP and federal regulations in calculating an effluent limitation to protect aquatic life from chronic impacts of aluminum. The Regional Water Board determined that the 87 μg/L chronic criterion did not apply because the receiving water conditions are not similar to those USEPA used to derive the criterion. (See Permit at p. F-54; RTC at p. 143 [USEPA's chronic criterion is based on studies of receiving waters with pH and hardness conditions "not commonly observed in the Sacramento River."].) USEPA developed the chronic criterion based on receiving waters with a low hardness (<10 mg/L as $CaCO_3$) and pH (6.5 to 6.8). (RTC at p. 143.) For receiving waters that do not experience such conditions, USEPA indicates that the acute criterion of 750 μg/L is protective of aquatic life. The 750 μg/L criterion should apply in this case. The upstream receiving water hardness measures between 26 mg/L and 100 mg/L as $CaCO_3$ (with a median of 58 mg/L as $CaCO_3$) and the pH between 6.4 and 8.8 (with a median of 7.6). (Permit at p. F-54.)

Electing not to apply the 87 μg/L chronic criterion in this case is consistent with the federal regulations. The regulations expressly allow the permitting agency to consider "other relevant information" on a case-by-case basis when establishing WQBELs based on USEPA's ambient water quality criteria. (40 C.F.R. § 122.44(d)(1)(vi)(B).) In addition to the receiving water conditions under which

[20] CSPA refers to a June 24, 2010 letter from Alexis Strauss of USEPA Region IX to Regional Water Board Executive Officer Pamela Creedon to support applying the chronic aluminum criterion in this case. However, that letter related to a tentative permit for the Placer County Sewer Maintenance District 1 (County) Wastewater Treatment Plant—not the SRWTP. (CSPA Petition at p. 19.) That permit involved relaxing or removing existing aluminum limitations. (*Id.* at p. 20; Permit at pp. F-6, F-92.) The letter recognizes the discretion the Regional Water Board has in interpreting its narrative toxicity objective. (CSPA Petition at p. 20.) As part of the Placer County permit proceeding, the County submitted two letters from Charles Delos, Environmental Scientist for USEPA at its headquarters, expressing his conclusion that the 750 μg/L criterion was appropriate in that case and would not degrade water quality or impact aquatic life beneficial uses. (Delos, Charles. USEPA Environmental Scientist, to Richard McHenry, Central Valley RWQCB and Michael Bryan, Robertson-Bryan, Inc., letter dated December 19, 1993 and Delos, Charles, USEPA Environmental Scientist to Michael Bryan, Robertson-Bryan, Inc., letter dated June 10, 2010. Attached.)

USEPA developed the aluminum criteria, the Regional Water Board explained "other relevant information" considered in applying them. For similar reasons, the Utah Department of Environmental Quality uses the 750 μg/L acute criterion for receiving water conditions with a pH that equals or exceeds 7.0 and hardness is less than 50 mg/L as $CaCO_3$. (Permit at p. F-54; RTC at p. 143.) As the RTC clarifies, the Regional Water Board did not adopt the Utah criteria. (RTC at p. 143.) Rather, the Regional Water Board used its best professional judgment in applying USEPA's recommended aluminum criterion to interpret the Basin Plan's narrative toxicity standard. (*Ibid*.)

Further, the Water Quality Research Project recently released a study (Arid West Study)[21] to update USEPA's chronic aluminum criterion based on more recent data. The Arid West Study included an updated technical review of the aluminum toxicity literature and found that aluminum toxicity highly depends on ambient hardness. The Arid West Study reviewed 15 studies including 36 acute toxicity data points and 9 studies including 11 chronic toxicity data points. Based on this research, the Arid West Study recommended the following updated aluminum criteria:

Updated Chronic Aluminum Criteria Values Across Selected Hardness Concentration Values

Mean Receiving Water Hardness Concentration (mg/L as CaCO3)	**25**	**50**	**75**	**100**	**150**	**200**	**250**	**300**	**350**	**400**
Chronic Al Criteria (μg/L)[1]	**287**	**512**	**717**	**911**	**1,277**	**1,623**	**1,954**	**2,275**	**2,586**	**2,890**

1. $e^{(0.8327[\ln(\text{harness})] + 2.9800}$

The Regional Water Board's decision not to apply the chronic criterion for aluminum is consistent with federal regulatory requirements and otherwise supportable. Therefore, the State Water Board should dismiss CSPA's claims with regard to use of the chronic criterion.

C. The CTR Does Not Require Use of Upstream Receiving Water Hardness to Calculate Metals Criteria

CSPA claims that inclusion of effluent limitations for metals in the Permit that were based on the hardness of the effluent and/or downstream water is not protective of aquatic life, and that effluent limits should have been calculated using upstream receiving water hardness as "required" by the California Toxics Rule (CTR). (40 CFR 131.38(c)(4).) Evidence in the record, prior State Water Board orders, and a recent superior court decision demonstrate that this contention is wrong. Further, unlike the Regional Water Board's approach, CSPA's proposed approach would not ensure protection of aquatic life in the receiving water under all flow conditions.

CTR criteria for the seven heavy metals are considered to be "hardness dependent". However, neither the CTR nor the SIP provide detailed or specific information as to how the hardness value should be selected for calculating hardness-dependent metals criteria. The State Water Board opined that the requirement of the CTR and SIP "are somewhat conflicting for selection of hardness." (Davis Order at

[21] Arid West Water Quality Research Project. 2006. *Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report*. Parametrix Inc. Albany, Oregon. Chadwick Ecological Consultants, Littleton, Colorado. URS Corporation, Albuquerque, New Mexico.

p.10.) Accordingly, the State Water Board found that the regional water boards have considerable discretion in the selection of hardness, and, more importantly, "[r]egardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which a particular hardness exists." *(Ibid*.) In addition to evaluating upstream hardness values, the State Board also indicated that representative downstream receiving water hardness data could be used to calculate CTR heavy metals criteria. (*Ibid*.)

The Regional Water Board's approach to calculating hardness based effluent limits uses an approach referred to as the 'curves method,' which is documented in a 2006 paper. (Permit, p. F 22.) The methodology is derived from the hardness-based formulas that are contained in the CTR and relies on the shape of the resulting criterion versus hardness curves. Some of the curves generated by the hardness based formulas are convex functions with 'concave down' shaped curves (chronic cadmium, chromium III, copper, nickel, and zinc). Others are concave functions with 'concave up' shaped curves (acute cadmium, lead, and acute silver). The curve-based methodology can be used to demonstrate the proper selection of hardness values to calculate criteria that are protective of aquatic life at the point of discharge as well as downstream of the discharge.

All possible blends of receiving water and effluent result in metals concentrations that are less than the criteria when the curve approach is used (i.e., setting criteria based on effluent hardness for the concave down metals and the hardness of the receiving water-effluent mixture that corresponds to effluent concentration defined by the tangential line for concave up metals), ensuring that aquatic life are protected using the hardness values as described above. The results are independent of whether upstream receiving water hardness levels are greater than or less than the effluent hardness levels. Additionally, in the case where the upstream receiving water exceeds a CTR metals criterion, if effluent criteria are calculated using the curve method the analysis can be used to demonstrate that all mixtures of effluent and receiving water will have better water quality than the pure upstream receiving water. Thus, the curve method is employed to calculate effluent metals criteria that will not cause or contribute to a receiving water exceedance below the point of discharge.

CSPA is incorrect that using upstream hardness generates effluent limits that will always be protective of aquatic life. Accordingly, the Regional Water Board properly exercised its discretion to select appropriate hardness values and CSPA's claim should be dismissed.

D. The Permit's Mixing Zone Complies With the Federal Regulations and SIP

CSPA is incorrect that the mixing zones authorized in the Permit do not comply with the SIP or 40 C.F.R. § 131.12(a)(1), which requires that implementation of the state's antidegradation policy maintain and protect existing instream water uses and their necessary water quality levels. (See CSPA Petition at p. 52.) As explained below, the mixing zones are consistent with the controlling regulatory requirements—the SIP and Basin Plan. The SIP and Basin Plan require that the mixing zones be protective of Sacramento River's beneficial uses.

The Permit grants a chronic aquatic life mixing zone (for cyanide) and human health mixing zone.[22] (Permit at pp. F-36, F-40, F-41.) The chronic aquatic life mixing zone is 400 feet wide and extends

[22] The Regional Water Board denied the allowance of an acute aquatic life mixing zone despite finding that it complies with the SIP and Basin Plan. (Permit at p. F-36.)

350 feet downstream of the diffuser. (*Id.* at p. F-36; RTC at p. 152.) The human health mixing zone extends approximately three miles downstream of the discharge where complete mixing occurs. (Permit at p. F-38; RTC at p. 152.) The nearest drinking water intake is about 40 miles downstream of the discharge, which is 37 miles from the end of the mixing zone. (*Ibid*.) The Permit allows dilution credits for bis(2-ethylhexyl)phthalate, carbon tetrachloride, chlorodibromomethane, cyanide, dibenzo(ah)anthracene, dichlorobromomethane, manganese, methyl tertiary butyl ether, methylene chloride, pentachlorophenol, and tetrachloroethylene in compliance with the SIP and Basin Plan. (Permit at pp. F-41 to F-45; RTC at p. 153.)

Because the SRWTP's discharge is an incompletely-mixed discharge, SRCSD performed a mixing zone study to demonstrate that the dilution credit was appropriate. (Permit at p. F-31; see SIP at pp. 16-17; Order WQ 2009-0012[23] at p. 10 [discharger must conduct a study to support the dilution credit for a non completely-mixed discharge].) SRCSD's dynamic model consisted of five models linked in series, including U.S. Bureau of Reclamation and USEPA models. (Permit at pp. F-31 to F-33; RTC at p. 152.) SRCSD performed several field validation studies to corroborate the effectiveness of the modeling tools in representing the receiving water conditions. (Permit at p. F-33; RTC at p. 152.) The Regional Water Board's consultant (Tetra Tech, a USEPA contractor) and the Regional Water Board concluded that the model study was sound and scientifically defensible and capable of providing an accurate probabilistic representation of receiving water conditions. (Permit at pp. F-33 to F-34; RTC at p. 152.) Because the human health mixing zone extends beyond the model domain of the dynamic model, SRCSD also conducted a harmonic mean mixing zone report. (Permit at p. F-38.) This study identified that complete mixing occurs approximately three miles downstream of the discharge. (*Ibid*.)

The record contains more than sufficient evidence indicating that the mixing zones comply with the SIP and Basin Plan. (Permit at pp. F-36 to F-40.) The SIP requires a mixing zone to be as small as practicable and meet certain conditions. (SIP at p. 17.) The Permit includes specific findings with regard to such conditions. (Permit at pp. F-36 to F-38, F-39 to F-40.) As the Permit explains, the mixing zones will not compromise the integrity of the entire water body; cause acutely toxic conditions to aquatic life passing through the mixing zone; restrict the aquatic life passage; adversely impact biological sensitive or critical habitats; produce undesirable or nuisance aquatic life; result in floating debris, oil or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance; dominate the receiving water body or overlap existing mixing zones from different outfalls; or be allowed at or near any drinking water intake. (*Ibid*; see RTC at p. 152; see also SIP at p. 17.) Also as the SIP requires, the Permit specifies the method for deriving the mixing zone, the dilution credits granted and mixing zone boundaries. (See Permit at pp. F-31 to F-33, F-36, F-38 to F-39, F-40; SIP at p. 17; see Order WQ 2008-0010[24] at p. 3; see also Basin Plan at p. IV-16.00 [requiring consideration of USEPA's Water Quality Standards Handbook and TSD to determine mixing zone size].)

In accordance with the Basin Plan, the Regional Water Board designates mixing zones where the discharger has demonstrated that the mixing zone will not adversely impact beneficial uses. (Basin Plan at p. IV-16.00; Permit at p. F-29; see Yuba City Order at p. 12.) Such a demonstration was made, and the Regional Water Board expressly concluded the mixing zones comply with the Basin Plan's requirement that mixing zones not adversely impact beneficial uses. (Permit at pp. F-38, F-40; see RTC at p. 152 [the

[23] *In the Matter of the Petitions of City of Stockton, et al.*, Order WQ 2009-0012 (Oct. 6, 2009).

[24] *In the Matter of the Petition of the California Sportfishing Protection Alliance*, Order WQ 2008-0010 (Nov. 18, 2008).

mixing zones "are adequately protective of the beneficial uses of the receiving water."].) Further, the Regional Water Board reviewed the appropriate data and determined that assimilative capacity is available for the constituents for which the Permit grants a mixing zone. (Permit at pp. F-41 to F-45.)

In this case, the Regional Water Board properly granted the mixing zones and dilution credits as related to the above-named constituents. Therefore, the State Water Board should dismiss CSPA's request for review and modification of the Permit with regard to the mixing zones.

E. The Sewage Exemption of Title 27 of the California Code of Regulations (Title 27) Applies to the Emergency Storage Basins (ESBs)

CSPA challenges the Permit's granting of Title 27's sewage exemption to ESB-B, ESB-C and ESB-E. (CSPA Petition at p. 49.) In particular, CSPA argues that the Permit fails to establish that the discharge complies with applicable water quality objectives, which is a precondition of Title 27's sewage exemption. (*Id.* at pp. 49, 51-52.) CVCWA disagrees. The Permit properly applies the sewage exemption to ESB-B, ESCB-C and ESCB-E, as these facilities are not subject to the precondition to comply with water quality objectives.[25] (See Permit at p. F-14.)

Title 27 exempts from its land disposal requirements for solid waste:

> Sewage-Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, *and treatment or storage facilities associated with municipal wastewater treatment plants*, *provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division*. (Title 27, § 20090(a), emphasis added.)

The first part of this "sewage exemption" exempts from Title 27 discharges of sewage and treated effluent *as long as* they are regulated by WDRs (or a waiver of WDRs) and comply with applicable water quality objectives. The second part of the sewage exemption exempts from Title 27 treatment or storage facilities associated with municipal wastewater treatment plants *as long as* the residual sludges or solid wastes are discharged in accordance with Title 27. Based on the regulation's plain language, *demonstrating consistency with water quality objectives before permit issuance is not necessary for treatment and storage facilities to be exempt from Title 27 under the second part of the sewage exemption.*

The Regional Water Board correctly determined that ESB-B, ESB-C and ESB-E are "treatment and storage facilities associated with municipal wastewater treatment plants" and therefore exempt from Title 27. (See Permit at pp. F-5, F-14; RTC at p. 151.) That is, ESB-B, ESB-C and ESB-E are a necessary part of the wastewater treatment system and qualify for the second part of the sewage exemption. (RTC at

[25] In a recent order governing the City of Lodi, the State Water Board found that the sewage exemption did not apply because: (1) the effluent already underwent treatment and was being stored in the ponds until it could be used to irrigate agricultural fields; and (2) some of the waste streams stored did not go through the treatment plant (e.g., untreated industrial wastes and stormwater runoff) and therefore were not associated with the wastewater treatment plant. (*In the Matter of Own Motion Review of City of Lodi*, Order WQ 2009-0005 (July 7, 2009) at p. 9.) These factors are not present in this case with regard to the ESBs.

p. 151.) For example, SRWTP may divert untreated wastewater to ESB-B and ESB-C during peak wet weather flows to protect the treatment system from being washed-out. (*Ibid*; see Permit at pp. F-5, F-14.) In addition, these facilities are integral for storing diverted flow to comply with NPDES permit conditions. (Permit at p. F-14.) Untreated wastewater temporarily stored in the facilities returns to the headworks for treatment before being discharged. (RTC at p. 151.) ESB-E is part of the surge relief mechanism and relieves water hammer effects in the influent conduit. (Permit at p. F-14.) For these reasons, ESB-B, ESB-C and ESB-E do not have to meet the precondition of the first part of the sewage exemption requiring consistency with water quality objectives.

CSPA's strained interpretation of the sewage exemption would redefine "treatment or storage facilities associated with municipal wastewater treatment plants," rendering the exemption meaningless. Such an outcome runs afoul not only of Title 27, but also of the Water Code and federal regulations. Water Code section 13625(b)(1) defines "wastewater treatment plant" to include "[a]ny facility owned by a state, local, or federal agency and used in the treatment or reclamation of sewage or industrial wastes." The federal regulations define "publicly owned treatment works" to include "any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature." (40 C.F.R. § 403.3(q).)

In addition, CSPA erroneously claims that the Regional Water Board took the position that *any* part of a wastewater treatment system need not meet the first precondition of the sewage exemption. (See CSPA at p. ---.) As the Permit explains, the Regional Water Board found that the SRWTP's land disposal units are not exempt from Title 27 and is in the process of determining whether the solids storage basins are exempt from Title 27.[26] (Permit at p. F-13.)

Even if the State Water Board determines that any discharge from ESB-B, ESB-C and ESB-E must be consistent with applicable water quality objectives to be exempt from Title 27, the nature of the facilities' use and Permit ensure such consistency. As the RTC explains, ESB-B, ESB-C and ESB-E "are used infrequently, and in the case of ESB-E almost never." (RTC at p. 91.) The RTC thus concludes that the facilities "are unlikely to have *any* impacts on groundwater." (RTC at p. 91, emphasis added.) Further, the Permit establishes a groundwater limitation that states: "The release of waste constituents from any transport, storage, treatment, or disposal component associated with the [SRWTP] shall not cause the underlying groundwater to be degraded." (Permit at p. 19.) The Permit also establishes emergency storage basin operating requirements designed in part to protect groundwater quality. (*Id.* at pp. 30-31, F-116.) The Permit's monitoring and reporting program establishes land discharge monitoring requirements for the ESBs. (*Id.* at pp. E-12 to E-13.)

F. The Permit Contains an Enforceable Effluent Limitation for Chronic Toxicity

Contrary to CSPA's claim, the Permit includes an effluent limitation for chronic toxicity that is enforceable and complies with the Basin Plan, federal regulations and SIP. (See CSPA Petition at p. 91.) The Basin Plan's narrative toxicity objective states: "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at p. III-8.01.) The Regional Water Board *assumed* that the SRWTP's discharge has reasonable potential to cause or contribute to an exceedance of this objective. (Permit at

[26] Order No. R5-2003-0076 governs these facilities. (Permit at p. F-13.)

p. F-90.) Section 4 of the SIP[27] and 40 C.F.R. section 122.44(d)(1)(i) require an effluent limitation for any discharge that may cause or contribute to an exceedance of a narrative toxicity objective. Based on the assumption of reasonable potential, the Permit imposes the following effluent limitation for chronic toxicity: "There shall be no chronic whole effluent toxicity in the effluent discharge." (Permit at p. 14.)

To determine compliance with this effluent limitation and the Basin Plan's narrative toxicity objective, the Permit requires chronic whole effluent toxicity (WET) testing and related actions. (Permit at pp. 26, 36.) For example, SRCSD must investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity. (*Id.* at p. 26.) If the discharge exhibits toxicity above the numeric toxicity monitoring trigger of 8 TUc during accelerated monitoring, SRCSD must initiate a toxicity reduction evaluation (TRE)[28] consistent with an approved TRE workplan.[29] (*Ibid*.) Moreover, SRCSD must "*take actions* to mitigate the impact of the discharge and prevent recurrence of toxicity." (*Id*. at pp. 26-27, emphasis added.) The Permit authorizes the Regional Water Board to reopen the Permit to include toxicity limitations based on the TRE or State Water Board's revision of the SIP's toxicity control provisions. (*Id.* at p. 25.)

CSPA challenges the Permit's compliance approach for chronic toxicity, alleging that the approach nullifies the effluent limitation for chronic toxicity and makes toxic discharges unenforceable. (CSPA Petition at p. 92.) CSPA's allegations cannot withstand scrutiny. The Basin Plan states that compliance with the toxicity objective "will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, and biotoxicity tests of appropriate duration or other methods as specified by the Regional Water Board." (Basin Plan at p. III-8.01.) In accordance with the Basin Plan and SIP, the Permit and associated monitoring and reporting program require SRCSD to conduct chronic toxicity tests using the following three test species: *Ceriodaphnia dubia* (water flea), *Pimephales promelas* (fathead minnow) and *Selenastrum capricornutum* (green alga). (Permit at pp. 26, E-10; SIP at p. 30 [requiring use of these three test species to estimate chronic toxicity].)

Further, State Water Board orders require *narrative* (rather than numeric) effluent limitations for chronic toxicity where reasonable potential exists;[30] numeric benchmarks for triggering accelerated monitoring; rigorous TRE/toxicity investigation evaluation (TIE) conditions; and a reopener to establish numeric effluent toxicity limitations for chronic toxicity or the chemical(s) causing toxicity. (Davis Order at pp. 6-7; Los Coyotes Order at p. 10.) Interpreting a result of just 1.1 TUc as a violation would transform the narrative limitation into a numeric limitation and run afoul of these orders. (RTC at p. 156; see Davis Order at pp. 6-7; Los Coyotes Order at p. 10.) Such an interpretation would also ignore permissible dilution and the fact that in WET testing, a single test exceedance does not necessarily mean chronic toxicity exists. (RTC at p. 156.) As the RTC explains, the Permit's TRE/TIE requirements ensure that the discharge does not cause or contribute to toxicity in accordance with the SIP and State Water Board orders. (*Ibid*; see SIP at p. 30; Davis Order at pp. 6-7; Los Coyotes Order at p. 10.)

[27] The Permit findings state that the Permit implements the SIP's provisions for chronic toxicity control. (Permit at p. 9.)

[28] A TRE is a site-specific study conducted in a stepwise process to identify the causes and sources of effluent toxicity, evaluate toxicity control option effectiveness and confirm the effluent toxicity reduction. (Permit at p. 27.)

[29] The TRE workplan must outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity, be developed in accordance with federal guidance and have sufficient detail to allow SRCSD to initiate a TRE immediately as required. (Permit at p. 27.)

[30] The federal regulations specify that an NPDES permit may include "best management practices (BMPs) to control or abate the discharge of pollutants when: . . . (3) Numeric effluent limitations are infeasible." (40 C.F.R. § 122.44(k).)

In addition, during the TRE/TIE process, SRCSD is subject to an acute toxicity effluent limitation and chronic toxicity receiving water limitation. (Permit at pp. 14, 19.) Taken together, these provisions require SRCSD to address any newly discovered chronic toxicity promptly or be in violation of the Permit and subject to enforcement action. (RTC at p. 157.) Finally, the Permit's compliance approach is consistent with USEPA guidance and other permits adopted by the Regional Water Board. (RTC at p. 72; see *NPDES Permit Writers' Manual*, EPA-833-K-10-001 (Sept. 2010) at p. 6-40.)

For these reasons, the Permit's imposes an appropriate approach for regulating any chronic toxicity in the SRWTP's discharge. The State Water Board should reject CSPA's related requests for Permit modifications.

III. <u>Conclusion</u>

For the reasons stated above, CVCWA requests that the State Water Board grant the petition filed by SRCSD and deny the relief sought by CSPA. We appreciate your consideration of these comments and above-stated requests. We look forward to the State Water Board's issuance of a tentative order in this matter.

Sincerely,

Debbie Webster

Debbie Webster
Executive Officer

Attachments:

Attachment 1: December 19, 1993 Letter from Charles Delos to Richard McHenry and Michael Bryan
Attachment 2: June 10, 2010 letter from Charles Delos to Michael Bryan

c: See attached for distribution list (emailed to all)